

Appendix 3: Quality appraisal

All studies stated clear research questions, and reported data were sufficient to address those questions. MMAT ratings represent the number of criteria met out of five. Across included studies, the mean MMAT score of the included studies was 4.28/5. Mixed-methods studies (n=6) had a lower mean score of 3.5/5 (range 1-5), largely due to one study providing insufficient details on sampling strategy and inclusivity. Qualitative studies (n=17) scored highly overall (mean 4.64/5, range 2-5), although two studies scored lower because some findings were not clearly demonstrated by the presented data. Two qualitative studies had a lower score because some of the findings lacked data substantiation. Quantitative studies (n=12) had a mean score of 4.16/5 (range 2-5), largely due to missing information on the risk of non-responses bias and incomplete reporting of the sampling strategy.

[illegible]

Gill et al., 2018	5	Y	Y	Y	Y	Y	Y	Y										
Gill et al., 2019	4	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	Y
Guinane et al., 2018	5	Y	Y	Y	Y	Y	Y	Y										
Heath et al., 2016	5	Y	Y	Y	Y	Y	Y	Y										
Hueckel et al., 2012	1	Y	Y						N	N	N	N	Y					
King et al., 2019	5	Y	Y	Y	Y	Y	Y	Y										
King et al., 2024	5	Y	Y	Y	Y	Y	Y	Y										
Marufu et al., 2025	5	Y	Y	Y	Y	Y	Y	Y										
McCawley et al., 2013	5	Y	Y						Y	Y	Y	Y	Y					
New et al., 2019	5	Y	Y	Y	Y	Y	Y	Y										
Ngoya Ntumba et al., 2023	5	Y	Y	Y	Y	Y	Y	Y										
Odell et al., 2010	2	Y	Y	Y	N	Y	Not clear	N										
O'Halloran et al., 2023	4	Y	Y	Y	Y	Not clear	Not clear	Not clear	Y	Y	Y	Y	Y	Y	Y	Y	Y	N
Strickland et al., 2019	5	Y	Y	Y	Y	Y	Y	Y										
Sutton et al., 2024	5	Y	Y	Y	Y	Y	Y	Y										
Thiele et al., 2022	5	Y	Y	Y	Y	Y	Y	Y										
Thiele et al., 2025	5	Y	Y	Y	Y	Y	Y	Y										
Earle et al., 2018	5	Y	Y	Y	Y	Y	Y	Y										
Price et al., 2028	5	Y	Y	Y	Y	Y	Y	Y										
Odell, 2019	4	Y	Y						Y	Y	Y	Not clear	Y					
Van Voorhis and Willis, 2009	2	Y	Y						Y	Y	Not clear	Not clear	Not clear					
See et al., 2014	4	Y	Y						Y	N	Y	Y	Y					

No included papers were quantitative randomized or non-randomized controlled trials. These categories were withdrawn from the above table for lisibility purposes.

Mixed Methods Appraisal Tool (MMAT, version 2018) questions:

Category of study	Methodological quality criteria
Screening questions (for all types)	S1. Are there clear research questions? S2. Do the collected data allow to address the research questions?
1. Qualitative	1.1. Is the qualitative approach appropriate to answer the research question? 1.2. Are the qualitative data collection methods adequate to address the research question? 1.3. Are the findings adequately derived from the data? 1.4. Is the interpretation of results sufficiently substantiated by data? 1.5. Is there coherence between qualitative data sources, collection, analysis and interpretation?
2. Quantitative randomized controlled trials	2.1. Is randomization appropriately performed? 2.2. Are the groups comparable at baseline? 2.3. Are there complete outcome data? 2.4. Are outcome assessors blinded to the intervention provided? 2.5. Did the participants adhere to the assigned intervention?
3. Quantitative non- randomized	3.1. Are the participants representative of the target population? 3.2. Are measurements appropriate regarding both the outcome and intervention (or exposure)? 3.3. Are there complete outcome data? 3.4. Are the confounders accounted for in the design and analysis? 3.5. During the study period, is the intervention administered (or exposure occurred) as intended?
4. Quantitative Descriptive	4.1. Is the sampling strategy relevant to address the research question? 4.2. Is the sample representative of the target population? 4.3. Are the measurements appropriate? 4.4. Is the risk of nonresponse bias low? 4.5. Is the statistical analysis appropriate to answer the research question?
5. Mixed methods Supplemental material	5.1. Is there an adequate rationale for using a mixed methods design to address the research question? 5.2. Are the different components of the study effectively integrated to answer the research question? 5.3. Are the outputs of the integration of qualitative and quantitative components adequately interpreted? 5.4. Are divergences and inconsistencies between quantitative and qualitative results adequately addressed? 5.5. Do the different components of the study adhere to the quality criteria of each tradition of the methods involved?